

REMARKS

Early and favorable reconsideration of this application is respectfully requested in view of the following remarks.

Claims 1, 3-5, 7, 9-12, 14-34, 36-48, 51-52, and 54-64 are pending in the present application; claims 2, 6, 8, 13, 35, 49, 50, 53, and 65 have been cancelled herein. Claims 1, 3, 5, 7, 14, 23, 24, 32, 48, 51, 52, 54, and 64 have been amended for clarification; no new matter has been added by these amendments.

The Examiner has rejected claims 48, 49 and 54-65 under 35 U.S.C. §102(e) as anticipated by over U.S. Patent No. 6,925,051 to Wisnudel et al. (hereinafter "Wisnudel '051"). (Claims 49 and 65 have been cancelled, so the relevant claims are 48 and 54-64.) This rejection is respectfully traversed. Nowhere does Wisnudel '051 disclose or suggest an adhesive formulation for a reactive dye layer for a limited-play optical storage medium including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one curable acrylate monomer and at least one reactive material as recited in claim 48. Similarly, nowhere does Wisnudel '051 disclose or suggest a limited play optical storage medium for data including a first optically transparent substrate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a reactive layer prepared from an

adhesive formulation including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one curable acrylate monomer, and at least one reactive material, and a second substrate as recited in claim 64.

While Wisnudel '051 discloses limited play data storage media and adhesive formulations suitable therein, the adhesive formulations do not include branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, or cellulose derivatives as recited in claims 48 and 64. Without such disclosure, Wisnudel '051 cannot anticipate claims 48 and 54-64 and reconsideration of this rejection is respectfully requested.

The Examiner has rejected claims 48, 49 and 54-65 under 35 U.S.C. §102(e) as anticipated by over U.S. Patent Published Application No. 2004/0152013 to Olson et al. (hereinafter "Olson '013") (Claims 49 and 65 have been cancelled, so the relevant claims are 48 and 54-64). This rejection is respectfully traversed. Nowhere does Olson '013 disclose or suggest an adhesive formulation for a reactive dye layer for a limited-play optical storage medium including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer,

and cellulose derivatives, at least one curable acrylate monomer and at least one reactive material as recited in claim 48. Similarly, nowhere does Olson '013 disclose or suggest a limited play optical storage medium for data including a first optically transparent substrate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a reactive layer prepared from an adhesive formulation including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one curable acrylate monomer, and at least one reactive material, and a second substrate as recited in claim 64.

While Olson '013 discloses limited play data storage media and adhesive formulations suitable therein, the adhesive formulations do not include branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, or cellulose derivatives as recited in claims 48 and 64. Without such disclosure, Olson '013 cannot anticipate claims 48 and 54-64 and reconsideration of this rejection is respectfully requested.

The Examiner has rejected claims 1-5, 7, 8, 10-12 and 16-18 under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 6,338,933 to Lawandy et al. (hereinafter "Lawandy"). The Examiner noted in this rejection that the term "carrier" had been interpreted broadly and that the

recitation of a "polymeric carrier" would overcome the rejection. Claim 1 has been amended to recite a polymeric carrier, thereby rendering the instant rejection moot.

The Examiner has rejected claims 1, 8, 10-12 and 16-18 under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,397,686 to Dominick et al. (hereinafter "Dominick"). This rejection is respectfully traversed. Nowhere does Dominick disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1.

While Dominick discloses mixing methylene blue with gelatin or polyvinyl alcohol, nowhere does Dominick disclose the combination of components recited in claim 1. Without

such teaching, Dominick fails to anticipate the pending claims and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1, 8, 10-12 and 16-18 under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 3,740,761 to Fechter (hereinafter "Fechter"). This rejection is respectfully traversed. Nowhere does Fechter disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1.

While Fechter discloses mixing methylene blue with water and polyvinyl alcohol, nowhere does Fechter disclose the combination of components recited in claim 1. Without such

teaching, Fechter fails to anticipate the pending claims and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1, 8, 10-12 and 16-21 under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 4,422,671 to Cespon (hereinafter "Cespon"). This rejection is respectfully traversed. Nowhere does Cespon disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1.

While Cespon discloses a combination including benzoyl-leuco methylene blue with water and polyvinyl alcohol, nowhere does Cespon disclose the components recited in claim 1.

Without such teaching, Cespon fails to anticipate the pending claims and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1, 8, 10-12 and 16-21 under 35 U.S.C. §102(b) as anticipated by U.S. Patent Published Application No. 2002/0102499 to Krieg-Kowald (hereinafter "Krieg-Kowald"). This rejection is respectfully traversed. Nowhere does Krieg-Kowald disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1.

While Krieg-Kowald discloses the use of benzoyl leucomethylene blue in optical discs, nowhere does Krieg-Kowald disclose the components recited in claim 1. For example, applicants do not see a reference to hydroxypolystyrene in Example 2 as suggested by the

Examiner. Without such teaching, Krieg-Kowald fails to anticipate the pending claims and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1-5, 7, 13, 16-21 under 35 U.S.C. §102(e) as anticipated by U.S. Patent Published Application No. 2003/0050191 to Bhatt et al. (hereinafter "Bhatt"). This rejection is respectfully traversed. Nowhere does Bhatt disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1.

While Bhatt discloses a combination including leuco cyan dyes, polyhydroxystyrene and other binders, nowhere does Bhatt disclose or suggest the combination of components recited in

claim 1, including the specific carriers and dyes. Without such teaching, Bhatt fails to anticipate the pending claims and withdrawal of this rejection is respectfully requested.

The Examiner has next rejected claims 1-7 and 13-21 under 35 U.S.C. §103(a) as obvious over Bhatt. This rejection is respectfully traversed. As noted above with respect to the rejection under 35 U.S.C. §102(e), nowhere is there any disclosure or suggestion in Bhatt of a coating formulation for a reactive dye layer including selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1. Without such teaching or suggestion, Bhatt cannot render the instant claims obvious and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1-7, 10-14, 16-21 under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 5,084,593 to Gotoh et al. (hereinafter "Gotoh"). This rejection is respectfully traversed. Nowhere does Gotoh disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers,

polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine O, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1.

While Gotoh discloses a combination including leuco dyes, polyvinyl alcohol and methyl cellulose, nowhere does Gotoh disclose or suggest the combination of components recited in claim 1, including the specific carriers. Without such teaching, Gotoh fails to anticipate the pending claims and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1-5, 7-21, 23, 24, 26-47 under 35 U.S.C. §103(a) as obvious over U.S. Patent Published Application No. 2004/0014859 to Ezbiansky (hereinafter "Ezbiansky '859"). This rejection is traversed. Nowhere does Ezbiansky '859 disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin comonomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV

curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1. Similarly, nowhere does Ezbiansky '859 disclose or suggest a limited play optical storage medium for data, including a first optically transparent substrate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a reactive layer including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof, and at least one reactive material, and a second substrate as recited in claim 23. Moreover, nowhere does Ezbiansky '859 disclose or suggest a limited play optical storage medium for data, including an optically transparent polycarbonate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a second substrate, and a reactive layer disposed between said reflective layer and said second substrate, said reactive layer comprising a polyhydroxystyrene homopolymer, a poly(methyl methacrylate

methacrylic acid) copolymer, polymethylmethacrylate homopolymer, and leuco methylene blue, said copolymer having an inherent viscosity of less than about $0.200 \text{ cm}^3 \text{ g}^{-1}$ as recited in claim 47.

While Ezbiansky '859 discloses a combination including leuco cyan dyes, and other binders, nowhere does Ezbiansky '859 disclose or suggest the combination of components recited in claims 1, 23 and 47, including the specific polyhydroxy compounds utilized in the layers claimed therein. Without such teaching or suggestion, Ezbiansky '859 cannot render the instant claims obvious and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1-5, 7-9, 13-21, 23, 24, 26-31 and 35-47 under 35 U.S.C. §103(a) as obvious over U.S. Patent Published Application No. 2005/0049931 to Wisnudel et al. (hereinafter "Wisnudel '931"). This rejection is traversed. Nowhere does Wisnudel '931 disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from

the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1. Similarly, nowhere does Wisnudel '931 disclose or suggest a limited play optical storage medium for data, including a first optically transparent substrate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a reactive layer including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof, and at least one reactive material, and a second substrate as recited in claim 23. Moreover, nowhere does Wisnudel '931 disclose or suggest a limited play optical storage medium for data, including an optically transparent polycarbonate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a second substrate, and a reactive layer disposed between said reflective layer and said second substrate, said reactive layer comprising a polyhydroxystyrene homopolymer; a poly(methyl methacrylate methacrylic acid) copolymer, polymethylmethacrylate homopolymer,

and leuco methylene blue, said copolymer having an inherent viscosity of less than about 0.200 cm^3g^{-1} as recited in claim 47.

While Wisnudel '931 discloses various materials which may be utilized to form its substrates, nowhere does Wisnudel '931 disclose or suggest the combination of components recited in claims 1, 23 and 47, including the specific carriers utilized in the layers claimed therein. Without such teaching or suggestion, Wisnudel '931 cannot render the instant claims obvious and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1-5, 7-9, 13-21, 23, 24, 26-31 and 35-65 under 35 U.S.C. §103(a) as obvious over U.S. Patent Published Application No. 2005/0050571 to Wisnudel et al. (hereinafter "Wisnudel '571"). This rejection is traversed. Nowhere does Wisnudel '571 disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3,

toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1. Similarly, nowhere does Wisnudel '571 disclose or suggest a limited play optical storage medium for data, including a first optically transparent substrate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a reactive layer including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof, and at least one reactive material, and a second substrate as recited in claim 23. Moreover, nowhere does Wisnudel '571 disclose or suggest a limited play optical storage medium for data, including an optically transparent polycarbonate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a second substrate, and a reactive layer disposed between said reflective layer and said second substrate, said reactive layer comprising a polyhydroxystyrene homopolymer; a poly(methyl methacrylate methacrylic acid) copolymer, polymethylmethacrylate homopolymer, and leuco methylene blue, said copolymer having an inherent viscosity of less than about 0.200 cm^3g^{-1} as recited in claim 47. Nowhere does Wisnudel '571 disclose or suggest an adhesive

formulation for a reactive dye layer for a limited-play optical storage medium including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one curable acrylate monomer and at least one reactive material as recited in claim 48. Similarly, nowhere does Wisnudel '571 disclose or suggest a limited play optical storage medium for data including a first optically transparent substrate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a reactive layer prepared from an adhesive formulation including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one curable acrylate monomer, and at least one reactive material, and a second substrate as recited in claim 64.

While Wisnudel '571 discloses various materials which may be utilized to form its substrates, nowhere does Wisnudel '571 disclose or suggest the combination of components recited in claims 1, 23, 47, 48 and 64, including the specific carriers utilized in the layers claimed therein. Without such teaching or suggestion, Wisnudel '571 cannot render the instant claims obvious and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1-5, 7-9, 13-21, 23, 24, 26-31 and 35-65 under 35 U.S.C. §103(a) as obvious over U.S. Patent Published Application No. 2004/0137188 to Lindholm et al. (hereinafter "Lindholm '188"). This rejection is traversed. Nowhere does Lindholm '188 disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1. Similarly, nowhere does Lindholm '188 disclose or suggest a limited play optical storage medium for data, including a first optically transparent substrate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a reactive layer including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene

derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof, and at least one reactive material, and a second substrate as recited in claim 23. Moreover, nowhere does Lindholm '188 disclose or suggest a limited play optical storage medium for data, including an optically transparent polycarbonate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a second substrate, and a reactive layer disposed between said reflective layer and said second substrate, said reactive layer comprising a polyhydroxystyrene homopolymer; a poly(methyl methacrylate methacrylic acid) copolymer, polymethylmethacrylate homopolymer, and leuco methylene blue, said copolymer having an inherent viscosity of less than about $0.200 \text{ cm}^3 \text{ g}^{-1}$ as recited in claim 47. Nowhere does Lindholm '188 disclose or suggest an adhesive formulation for a reactive dye layer for a limited-play optical storage medium including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one curable acrylate monomer and at least one reactive material as recited in claim 48. Similarly, nowhere does Lindholm '188 disclose or suggest a limited play optical storage medium for data including a first optically transparent substrate, a reflective layer, a data layer

disposed between said substrate and said reflective layer, a reactive layer prepared from an adhesive formulation including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin comonomer, and cellulose derivatives, at least one curable acrylate monomer, and at least one reactive material, and a second substrate as recited in claim 64.

While Lindholm '188 discloses various materials which may be utilized to form its optically readable storage media, nowhere does Lindholm '188 disclose or suggest the combination of components recited in claims 1, 23, 47, 48 and 64, including the specific carriers utilized in the layers claimed therein. Without such teaching or suggestion, Lindholm '188 cannot render the instant claims obvious and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1-8, 10-12, and 16-21 under 35 U.S.C. §103(a) as obvious over Krieg-Kowald in view of International Application No. WO 02/096664 to Bhatt et al. (hereinafter "Bhatt WO 02/096664"). This rejection is respectfully traversed. As noted above, nowhere does Krieg-Kowald disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a

4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1.

While Krieg-Kowald discloses the use of benzoyl leucomethylene blue in optical discs (applicants do not see a reference to hydroxypolystyrene in Example 2 as suggested by the Examiner), nowhere does Krieg-Kowald disclose the components recited in claim 1.

Bhatt WO 02/096664 fails to remedy the deficiencies of Krieg-Kowald. While Bhatt WO 02/096664 discloses imaging media, nowhere is there any disclosure or suggestion in Bhatt WO 02/096664 of a coating formulation for a reactive dye layer including selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1. Without such teaching, neither Krieg-Kowald nor Bhatt WO 02/096664, taken alone or in any combination, render the obvious the instant claims and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1-8, 10-12, and 16-21 under 35 U.S.C. §103(a) as obvious over Lawandy in view of Bhatt WO 02/096664. This rejection is respectfully traversed. Nowhere does Lawandy disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1.

Bhatt WO 02/096664 fails to remedy the deficiencies of Lawandy. While Bhatt WO 02/096664 discloses imaging media, nowhere is there any disclosure or suggestion in Bhatt WO 02/096664 of a coating formulation for a reactive dye layer including selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1. Without such teaching, neither

Lawandy nor Bhatt WO 02/096664, taken alone or in any combination, render the obvious the instant claims and withdrawal of this rejection is respectfully requested.

Claims 48-65 have been rejected under 35 U.S.C. §103(a) as obvious over Wisnudel '051 or Olson '013 in view of Bhatt WO 02/096664. This rejection is respectfully traversed. As noted above, nowhere does Wisnudel '051 or Olson '013 disclose or suggest an adhesive formulation for a reactive dye layer for a limited-play optical storage medium including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one curable acrylate monomer and at least one reactive material as recited in claim 48. Similarly, nowhere does Wisnudel '051 or Olson '013 disclose or suggest a limited play optical storage medium for data including a first optically transparent substrate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a reactive layer prepared from an adhesive formulation including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one curable acrylate monomer, and at least one reactive material, and a second substrate as recited in claim 64.

While Wisnudel '051 discloses limited play data storage media and adhesive formulations suitable therein, the adhesive formulations do not include branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, or cellulose derivatives as recited in claims 48 and 64. Similarly, while Olson '013 discloses limited play data storage media and adhesive formulations suitable therein, the adhesive formulations do not include branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, or cellulose derivatives as recited in claims 48 and 64.

Bhatt WO 02/096664 fails to remedy the deficiencies of Wisnudel '051 and Olson '013, no matter how these references may be combined. While Bhatt WO 02/096664 discloses imaging media, nowhere is there any disclosure or suggestion in Bhatt WO 02/096664 of a coating formulation for a reactive dye layer including selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1. Without such teaching, neither Wisnudel '051, Olson '013, nor Bhatt WO 02/096664, taken alone or in any combination, render the obvious the instant claims and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1-21 and 23-47 have been rejected under 35 U.S.C. §103(a) as obvious over U.S. Patent Published Application No. 2003/0198892 to Ezbiansky (hereinafter "Ezbiansky '892") (it is believed the Examiner's reference to Ezbiansky '982 is a typographical error; confirmation is respectfully requested) or Ezbiansky '859 or U.S. Patent Published Application No. 2003/0207206 to Olson (hereinafter "Olson '206") in view of Bhatt WO 02/096664. This rejection is respectfully traversed. Nowhere does Ezbiansky '892, Ezbiansky '859, or Olson '206 disclose or suggest a coating formulation for a reactive dye layer for a limited-play optical storage medium, said formulation comprising at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof; and at least one reactive material selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1. In addition, nowhere does nowhere does Ezbiansky '892, Ezbiansky '859, or Olson '206 disclose or suggest a limited play optical storage medium for data, including a first optically transparent

substrate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a reactive layer including at least one polymeric polyhydroxy compound selected from the group consisting of branched polyhydroxystyrene homopolymers, polyhydroxystyrene copolymers prepared by polymerizing a 4-hydroxystyrene derivative with at least one olefin co-monomer, and cellulose derivatives, at least one polymeric carrier selected from the group consisting of thermoplastic acrylic polymers, polyester resins, epoxy resins, polythiolenes, UV curable organic resins, polyurethanes, thermosettable acrylic polymers, alkyds, vinyl resins, and combinations thereof, and at least one reactive material, and a second substrate as recited in claim 23.

Moreover, nowhere does Ezbiansky '892, Ezbiansky '859, or Olson '206 disclose or suggest a limited play optical storage medium for data, including an optically transparent polycarbonate, a reflective layer, a data layer disposed between said substrate and said reflective layer, a second substrate, and a reactive layer disposed between said reflective layer and said second substrate, said reactive layer comprising a polyhydroxystyrene homopolymer; a poly(methyl methacrylate methacrylic acid) copolymer, polymethylmethacrylate homopolymer, and leuco methylene blue, said copolymer having an inherent viscosity of less than about $0.200 \text{ cm}^3 \text{g}^{-1}$ as recited in claim 47.

While Ezbiansky '892, Ezbiansky '859, and Olson '206 disclose optical storage media including dyes in reactive layers, nowhere does Ezbiansky '892, Ezbiansky '859, or Olson '206

disclose or suggest the combination of components recited in claims 1, 23 and 47, including the specific polyhydroxy compounds utilized in the layers claimed therein.

Bhatt WO 02/096664 fails to remedy the deficiencies of Ezbiansky '892, Ezbiansky '859, and Olson '206, no matter how these references may be combined. While Bhatt WO 02/096664 discloses imaging media, nowhere is there any disclosure or suggestion in Bhatt WO 02/096664 of a coating formulation for a reactive dye layer including selected from the group consisting of oxygen sensitive leuco methylene blue, brilliant cresyl blue, basic blue 3, toluidine 0, combinations comprising at least one of the foregoing reactive materials, and protected forms of any of the foregoing reactive materials as recited in claim 1. Without such teaching, neither Ezbiansky '892, Ezbiansky '859, Olson '206, nor Bhatt WO 02/096664, taken alone or in any combination, render obvious the instant claims and withdrawal of this rejection is respectfully requested.

The Examiner has rejected claims 1-47 under 35 U.S.C. §103(a) as obvious over Ezbiansky '892, Ezbiansky '859, or Olson '206 in view of Bhatt WO 02/096664 and further in view of Lindholm '188. As noted above, neither Ezbiansky '892, Ezbiansky '859, Olson '206, nor Bhatt WO 02/096664, taken alone or in any combination, render obvious the instant claims. Lindholm '188 fails to remedy the deficiencies of these references.

While Lindholm '188 discloses various materials which may be utilized to form its optically readable storage media, nowhere does Lindholm '188 disclose or suggest the

combination of components recited in claims 1, 23, and 47, including the specific carriers utilized in the layers claimed therein. Thus, neither Ezbiansky '892, Ezbiansky '859, Olson '206, Bhatt WO 02/096664, nor Lindholm '188, taken alone or in any combination, render obvious the instant claims, and reconsideration of this rejection is respectfully requested.

The Examiner has rejected all of the claims on the ground of nonstatutory obviousness-type double patenting as unpatentable over U.S. Patent No. 6,925,051, and provisionally rejected claims 1-5, 7-9, 13-21, 23, 24, 26-31 and 35-65 on the ground of nonstatutory obviousness-type double patenting as unpatentable over U.S. Patent Application Publication No. 2004/0137188. With respect to U.S. Patent Application Publication No. 2004/0137188, which is a provisional rejection, applicants respectfully request that any double patenting issues be addressed upon issuance of this application or U.S. Patent Application Publication No. 2004/0137188, with the indication of allowable subject matter in the other case that has not yet issued, but for the double patenting issue. As to U.S. Patent No. 6,925,051, applicants will submit a terminal disclaimer, as appropriate, upon indication of allowance but for the double patenting issue.

It is believed that the claims of the application, i.e., claims 1, 3-5, 7, 9-12, 14-34, 36-48, 51-52, and 54-64, are patentably distinct over the art of record and are in condition for allowance. In the event that the examiner believes that a telephone conference or a personal interview may facilitate resolution of any remaining matters, the undersigned may be contacted

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at the number indicated below. In view of the foregoing amendment and remarks, early and favorable action on this application are earnestly solicited.

Respectfully submitted,



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